REMARKS

The Official Action mailed March 8, 2007, has been received and its contents carefully noted. This response is filed within three months of the mailing date of the Official Action and therefore is believed to be timely without extension of time. Accordingly, the Applicant respectfully submits that this response is being timely filed.

The Applicant notes with appreciation the consideration of the Information Disclosure Statements filed on July 24, 2003; and March 29, 2006.

A further Information Disclosure Statement was submitted on April 24, 2007 (received by OIPE April 27, 2007), and consideration of this Information Disclosure Statement is respectfully requested.

Claims 1-21 are pending in the present application, of which claims 1-6 and 13-15 are independent. Claims 2, 4, 6, 8, 10 and 12-18 have been withdrawn from consideration by the Examiner (Office Action Summary and page 2, Paper No. 20070223). Accordingly, claims 1, 3, 5, 7, 9, 11 and 19-21 are currently elected, of which claims 1, 3, 5 and 7 are independent. Claims 1, 3 and 5 have been amended to better recite the features of the present invention. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

Paragraph 2 of the Official Action rejects claims 1, 3, 5, 7, 9, 11 and 19-21 as obvious based on the combination of U.S. Patent No. 6,333,493 to Sakurai and U.S. Patent No. 6,105,274 to Ballantine. The Applicant respectfully submits that a *prima facie* case of obviousness cannot be maintained against the independent claims of the present application, as amended.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the

prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims, as amended. Independent claims 1, 3 and 5 have been amended to recite that one cycle including a first period and a second period is repeated several times, which is supported in the present specification, for example, by page 10, lines 1-2, and Figure 2. Sakurai and Ballantine, either alone or in combination, do not teach or suggest the above-referenced features of the present invention.

Since Sakurai and Ballantine do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

Paragraph 3 of the Official Action provisionally rejects claims 1, 3, 5, 7, 9, 11 and 19-21 under the doctrine of obviousness-type double patenting over the combination of claims 13-24 of copending Application Serial No. 10/001,197 and Ballantine. The Applicant respectfully requests that the double patenting rejections be held in abeyance until an indication of allowable subject matter is made in either the present application or the copending application. At such time, the Applicant will respond to any remaining double patenting rejections.

Paragraph 4 of the Official Action rejects claims 1 and 19 under the doctrine of obviousness-type double patenting over the combination of claims 14 and 20 of U.S. Patent No. 6,759,313 to Yamazaki and Ballantine. The Applicant respectfully submits that the amended independent claims of the subject application are patentably distinct from the alleged combination of the claims of the Yamazaki patent and Ballantine.

As stated in MPEP § 804, under the heading "Obviousness-Type," in order to form an obviousness-type double patenting rejection, a claim in the present application must define an invention that is merely an obvious variation of an invention claimed in the prior art patent, and the claimed subject matter must not be patentably distinct from the subject matter claimed in a commonly owned patent. Also, the patent principally underlying the double patenting rejection is not considered prior art.

The Applicant respectfully traverses the obviousness-type double patenting rejection. The independent claims of the present application recite that one cycle including a first period and a second period is repeated several times. The claims of Yamazaki and Ballantine do not teach or suggest these features. It is respectfully submitted that the claims of the present application are not a timewise extension of the invention as claimed in the Yamazaki patent, either alone or in combination with Ballantine. Reconsideration and withdrawal of the obviousness-type double patenting rejections are requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Eric J. Robinson
Reg. No. 38,285

Robinson Intellectual Property Law Office, P.C.
PMB 955
21010 Southbank Street
Potomac Falls, Virginia 20165
(571) 434-6789